

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

Gregory BREYTA et al.

Confirmation No.: 1035

Serial No.: 10/729,453

Group Art Unit: 1621

Filing Date: December 4, 2003

Examiner: PRICE, Elvis O.

Title: PRECURSORS TO FLUOROALKANOL-CONTAINING OLEFIN MONOMERS AND ASSOCIATED METHODS OF SYNTHESIS AND USE

**PETITION UNDER 37 C.F.R. § 1.181 FOR
RECONSIDERATION OF RESTRICTION REQUIREMENT**

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 C.F.R. § 1.181, applicants respectfully petition for reconsideration and withdrawal of the Examiner's restriction requirement made final in the Office Action dated February 23, 2007.

1. Summary of facts

The restriction requirement from which the petition is made was first set forth in an Office Action dated October 12, 2006. That Office Action required restriction between the following groups of claims:

- (I) Claims 1-14 and 70, drawn to an aliphatic fluorinated polyol, classified in class 568;
- (II) Claims 15-27 and 71, drawn to an aliphatic fluoroalkanol ester, classified in class 560.
- (III) Claims 28-35, 39 and 72, drawn to a cycloaliphatic fluoroalkanol ester, classified in class 560.
- (IV) Claims 36-38, 40-43 and 73, drawn to a fluorodihydroxy ester, classified in class 560.

- (V) Claims 44 and 74, drawn to fluorotrihydroxy ester, classified in class 560.
- (VI) Claims 45-49, drawn to a method for making Group I compounds, classified in class 568.
- (VII) Claims 50-56, drawn to a method for making Group II compounds, classified in class 560.
- (VIII) Claims 57-69, drawn to a method for making Groups IV or V compounds, classified in class 560.

In response, applicants elected Group II, claims 15-27 and 71, with traverse.

The Examiner subsequently allowed the claims of Group II. In a telephone call, the Examiner asked applicants to cancel the non-elected claims, but applicants requested that he make the restriction requirement final in order to allow a petition from it to be filed. They also requested that he rejoin corresponding method claims.

In a first *Ex parte Quayle* action dated February 7, 2007, the Examiner made the restriction requirement final, but also withdrew it as to group VII, which he rejoined. Due to an error in the first *Ex parte Quayle* action, the Examiner withdrew it and sent a second *Ex parte Quayle* action on February 23, 2007.

Applicants' counsel had a brief telephonic conversation with the Examiner's supervisor, Thurman K. Page, on March 23, 2007, but was unable to resolve the outstanding issue.

2. Search of all claims is not a serious burden

According to the MPEP, a restriction requirement is not permissible unless there would otherwise be a "serious burden" placed on the examiner. MPEP § 803 states:

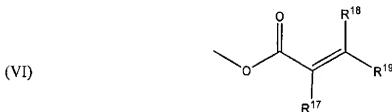
If the search and examination of all the claims in an application can be made without serious burden, the examiner must examine them on the merits, even though they include claims to independent or distinct inventions.

The Examiner did not explain in any way why the search of claims such as those of groups II and III or IV and V, all classified in class 560, would constitute a burden. Aside from their positions in the patent classification, the close relationship between groups IV and V for search purposes is further shown, for example, by the fact that the Examiner placed together in Group VIII the claims addressing methods of synthesizing the compounds from both groups IV and V.

Actual examination of the claims which have been classified as different inventions shows that the substances claimed there have a good deal of structural similarity which would

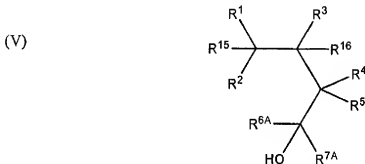
tend to reduce the search burden. Take as examples independent claims 15, 28, 36, and 44, which the Examiner placed in four groups II, III, IV, and V. These claims have at least the following major commonalities:

(1) All four of these claims have in common a substituent having the structure of formula (VI):



wherein R¹⁷ is selected from hydrogen, fluoro, C₁-C₄ alkyl, fluorinated C₁-C₄ alkyl, -CH₂-COOH, -CF₂-COOH, -CH₂-COOR²⁰, and -CF₂-COOR²⁰, R¹⁸ is hydrogen or fluoro, R¹⁹ is hydrogen, fluoro, or -COOH, and R²⁰ is a nonhydrogen substituent.

(2) In addition, in claims 15, 28, 36, and 44, the substituent having the structure of formula (VI) is located on carbons which are two or three carbons away from a hydroxyl group. Furthermore, the hydroxyl group's carbon must have a fluorinated substituent. What is more, that carbon forms part of a short backbone. Claim 15's structure, given by formula (V), is exemplary:

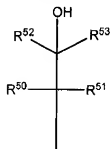


Here, the substituent of formula (VI) is either R¹⁵ or R¹⁶.

(3) In addition, there is a large amount of overlap in scope between claims 15, 36, and 44. The esters of claim 36 are largely within the scope of claim 15. They arise when the element R¹ in claim 15, which can be unsubstituted or substituted C₁-C₂₄ alkyl, is taken to have the special structure -CR³⁹R⁴⁰OH, with R³⁹ and R⁴⁰ as defined in claim 36. While the C₁-C₂₄

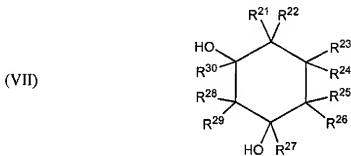
limitation in the definition of R^1 in claim 15 means that some of the substituents of the special structure $-\text{CR}^{39}\text{R}^{40}\text{OH}$ do not qualify as possible R^1 's for claim 15, a large number of them do qualify as possible R^1 's for claim 15. As a result, there is a large overlap of scope between claim 15 and claim 36.

(4) Similarly, the esters of claim 44 are to a large extent also within the scope of claim 15. The esters of claim 44 arise when the element R^3 of claim 15, which can be unsubstituted or substituted $\text{C}_1\text{-C}_{24}$ alkyl, is taken to have the special structure



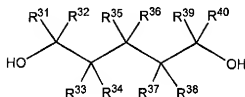
where R^{50} , R^{51} , R^{52} , and R^{53} are as in claim 44, and the element R^1 of claim 15 is taken to have the special structure $-\text{CR}^{48}\text{R}^{49}\text{OH}$, where R^{48} and R^{49} are as in claim 44. As with claim 36, the scope of claim 44 is not an exact subset of the scope of claim 15, because R^1 and R^3 in claim 15 are subject to a $\text{C}_1\text{-C}_{24}$ limitation. Nonetheless, there is substantial overlap of scope between claim 44 and claim 15.

(5) Claim 28 does not overlap in scope with claims 15, 36, or 44. However, the basic structure claimed in claim 28 with formula (VII),



is easily seen to be a cyclized version of the structure claimed in claim 36 with formula (VIII),

(VIII)



To get from formula (VIII) to formula (VII), a one-carbon bridge $-\text{CR}^{28}\text{R}^{29}-$ is inserted between the carbons to which the two hydroxyl groups attach. Furthermore, in both claims 28 and 36, the substituent that must have the form of formula (VI) above is either β or γ to a hydroxyl group, which is attached to a carbon that has a fluorinated substituent. In claim 28, the formula (VI) substituent is either R²³ and R²⁶; in claim 36, that substituent is either R³⁶ and R³⁷.

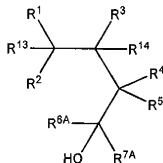
Summarizing:

- claim 15 (group II) is a base claim,
- claim 36 (group IV) is obtained by replacing R¹ in claim 15 by a specific structure (and somewhat modifying the scope of some substituents),
- claim 44 (group V) is obtained by replacing R¹ and R³ in claim 15 by specific structures (and somewhat modifying the scope of some substituents), and
- claim 28 (group III) addresses a cyclized version of the structure of claim 36 with a one-carbon bridge.

In light of all these commonalities between the claims of groups II, III, IV, and V, and in light of the substantial overlaps of claim scope, the search for prior art to the claims would necessarily focus on similar or identical searches and would not be an added burden.

As regards group I and the associated methods of group VI, an exemplary claim is claim 1, which claims structures of formula (IV):

(IV)



Here at least one of R¹³ or R¹⁴ must be hydroxyl, and at least one of R^{6A} and R^{7A} must be fluorinated. This is the same basic skeleton as claim 15, but the substituents R¹³ and R¹⁴ are different. A major commonality of these claims with the remainder of the claims is the existence of a hydroxyl group attached to a carbon with fluorinated substituents, where the carbon forms part of a short backbone chain.

The compounds of claim 1, unlike those of groups II-V, do not contain the ester structure of formula (VI). However, a searching strategy focusing on the attachment of the hydroxyl and fluorinated groups could easily find prior art pertinent to both groups I and groups II-V. Furthermore, search strategies focused on the ultimate utility disclosed in the application, photoresists, could also find prior art pertinent to all groups I-V. This suggests that including group I together with groups II-V would not so greatly add to the Examiner's burden of search that separating group I from groups II-V is justified.

3. Groups II, IV, and V, at least, cannot be separated from each other because they are not "distinct"

In addition to the requirement of undue burden of search, for a restriction requirement of related claims to be proper, the restriction requirement must divide the claims into "distinct" inventions. MPEP § 806.05(j). For distinctness, it is required inter alia that "the inventions *as claimed* do not overlap in scope, i.e., are mutually exclusive." *Id.* (emphasis in original).

There can be no dispute that the claims of groups II, III, IV and V are related, given all the commonalities described in detail in part 2 above. In addition, there can be no dispute that groups II, IV, and V are *not* mutually exclusive as required for distinctness. That is because of the large overlap in scope between the exemplary independent claims of those groups, as demonstrated in detail in part 2 above. Thus, as a matter of law, at least groups II, IV and V were not properly separated from each other.

In addition, the Examiner has not shown that group III is distinct from groups II, IV and V. The Examiner's sole argument is that "prior art anticipating or rendering obvious the invention of one Group would not *necessarily* anticipate[] or render obvious either of the inventions of the other Groups." 10/12/06 Office Action at 2-3 (emphasis added). This would be true of any two claims of different scope: prior art anticipating one claim might not anticipate the other. The specific requirements for distinctness laid out in MPEP § 806.05(j) demand more than this.

4. Conclusion

For these reasons, it is respectfully be requested that the restriction requirement be withdrawn in its entirety. Alternatively, it is respectfully requested that the restriction requirement be withdrawn at least as it pertains to groups II, III, IV, and V, allowing those four groups to be prosecuted together in one application and allowing rejoinder of group VIII to occur when the conditions for doing so are met.

Respectfully submitted,

By: /Flavio M. Rose, Reg. No. 40,791/
Flavio M. Rose, Reg. No. 40,791
c/o Mintz Levin
1400 Page Mill Road
Palo Alto, California 94304-1124
(650) 251-7700 Telephone
(650) 251-7739 Facsimile
Customer No. 23980

Date: March 30, 2007

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